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Journal of the Society of Arts.

FRIDAY, OCTOBER 22, 1858.

EXAMINATIONS, 1859.

In reply to inquiries by correspondents, in reference to the Examination in French next year, the following works have been mentioned by the Examiner in that subject, as likely to be useful to candidates in studying the history of France:—

Duruy's Histoire de France. 2 vols, 6s. 6d.
Soulain de Bossay's Histoire de France. 1 vol., 1s.

The following editions of works which may be taken up by candidates are given, as being moderate in price and easily procured:—

Voltaire: Louis XIV. (Firmin Didot). 2s. 6d.
Montesquieu: Grandeur et Décadence des Romains. (Ditto). 2s. 6d.
Les Œuvres de Corneille. 2 vols., 5s.
Tocqueville: L'Ancien Régime et la Revolution. 6s. 6d.

These may be obtained of Messrs. Williams and Norgate, Henrietta-street, Covent-garden.

BRITISH ASSOCIATION, LEEDS, 1858.

The Patent Laws.

Report of the Committee of the British Association, presented to the Mechanical Section by W. Fairbairn, F.R.S., President:—

The subject of the patent laws has frequently occupied the attention of meetings of the British Association, and committees have been, from time to time, appointed for the purpose of considering how those laws might be rendered more efficient for the objects with which they are maintained. Your Vice-President, the Rev. Vernon Harcourt, in the inaugural address at the first meeting of the Association, held at York, September, 1831, in which he expounded the objects and plan of the Association, referred to those laws as an instance in which fiscal regulations interfered with the progress of practical science, and as failing to give protection to property in scientific invention, to the same extent as protection is given to every other species of property, and he suggested a revision of those laws as one of the subjects to which a scientific association might be justly expected to call public attention, and your Vice-President, Sir David Brewster, and others, have, on several occasions, brought the subject before meetings of the Association.

By the Patent Law Amendment Act, passed in the session of 1852, the rights of the inventor to property in the offspring of his brain, and in the creations of his intellect, when embodied in products of national industry, were fully recognised; provisional protection to that property was secured to such inventor, from the date of his application for a patent; one proceeding was substituted, and one patent issued, extending to the whole of the United Kingdom, instead of three proceedings and three patents, separate and distinct, for each of the three countries, England, Scotland, and Ireland; property was created, and protection obtained for six months by a payment of £5, for three years by a payment of £25, and for the further terms of four and seven years by additional payments of £50 and £100 respectively, instead of by the payment of upwards of £300 in the first instance, under circumstances of such uncertainty as threw discredit on the whole system; the specifications of all patents are to be printed and published, and sold at extremely low prices, a benefit to the public as well as the inventor which it would be difficult to estimate too highly; and, lastly, provision was made for the regulation of matters relating to patents, by Commissioners furnished with ample powers for the purpose.

This Act came into operation on the 1st of October, 1852, and the experience of the first two years showed that the payments by inventors, upon the above scale of charges, would be at the rate of more than £50,000 per annum; without including the further or additional payments for the maintenance of the patents for the further terms of four or seven years, after the expiration of the first three or seven years respectively. At the meeting of the British Association in Liverpool, September, 1854, a committee, presided over by the Earl of Harrowby, was appointed "for the purpose of taking such steps as may be necessary to render the patent system, and the funds derived from inventors, more efficient and available for the reward of meritorious inventors, and the advancement of practical science." This committee communicated with Earl Granville and Lord Brougham, to whose exertions and watchful care the passage of the measure of 1852 was attributable, and made a report to the meeting of the British Association held in Glasgow in the following year, when the subject of the tax on inventors, and the appropriation of the funds so levied, was fully discussed; and another committee, consisting of his Grace the Duke of Argyll, the Earl of Harrowby, Colonel Sabine, the Master of the Mint (Professor Graham), Mr. Fairbairn, and Mr. Webster, were appointed with similar powers. The Glasgow Committee addressed a memorial to the Lord Chancellor (Lord Cranworth), calling attention to the proceedings which had taken place at the various meetings of the British Association; to the numerous questions of administration and legislation then adverted to, or which might be expected to arise; and suggesting that her Majesty should be advised, in accordance with the provisions of the Patent Law Amendment Act, 1852, to appoint others than the official Commissioners, and to make the working of that Act the subject of immediate inquiry.

At the meeting of the British Association held at Cheltenham in 1856, a committee, consisting of the Earl of Harrowby, Lord Stanley, M.P., Mr. Fairbairn, Professor Graham (the Master of the Mint), Mr. James Heywood, Mr. Commissioner Hill, Gen. Sabine, and Mr. Webster, were appointed with like powers. The Earl of Harrowby and Mr. James Heywood communicated personally with the Lord Chancellor; Lord Stanley took a warm interest in the subject, embodying his views on the necessary alterations in a published pamphlet, but up to this time the objects in view have not been attained, and it will be for this meeting of the British Association to consider what further steps should be taken.

The printing and publication of the specifications has led to results which were hardly anticipated, as to which the following extract, from a report of the Commissioners of Patents in 1856, will be read with interest:—

"The Commissioners of Patents have presented complete copies of all their publications to such of the Government offices and seats of learning as have applied for them, and to the principal towns in the United Kingdom, on condition of their being daily open *to the inspection* of the public free of charge. In their selection of towns for this gift, they have been guided by the number of applications for patents proceeding from each.

"This gift has in most cases laid the foundation of public free libraries, where none previously existed. In some instances, where the local authorities hesitated to accept the works on account of the incidental expenses, the custody has been solicited and temporarily undertaken by scientific institutions, which have modified their bye-laws to enable a free admission to the public daily to the library in which the works are deposited."

The same report, after enumerating a list of the places which have received the works, says:—"It is satisfactory to find that these national records of invention are especially consulted by that class whose skill in the improvement of manufactures is so essential to the maintenance of the commercial prosperity of this kingdom," and adds the testimony of the librarians of several of the free libraries to the same effect.

Complete sets of the Commissioners' works have been sent to the Colonies, to many foreign States, to the Patent Office, Washington, to the Aster Library, New York, to the Franklin Institution of Pennsylvania, to the Public Free Library, Boston, U.S.; and the Hon. Charles Mason, Commissioner of Patents for the United States, addressing the Commissioners of Patents in this country, writes as follows:—

"The admirable example you have set in publishing the specifications and drawings in full, and putting them on sale at a moderate price, so that all can easily provide themselves with what they need for private use, will ere long I trust stimulate our own Government to do the like. Nothing short of this in the way of publication can give permanent satisfaction."

A free library and reading-room has been opened at the Office of the Commissioners of Patents, containing a large collection of works of reference, which, as the same report states, is numerously attended by professional men, the agents of foreign and provincial inventors, and by practical mechanics and operatives; and Mr. Woodcroft has collected a large number of portraits of inventors, and of models illustrative of the history and progress of invention, which it may be hoped at a no distant period will form a principal object in a National Gallery of Inventions and Museum of Inventions.

These and other undertakings, well suited to promote the advance of practical science and the interest of inventors, afford legitimate objects for the expenditure of the surplus funds levied on inventors, but when ample provision shall have been made for these objects there will still be a considerable annual surplus.

The amount paid by patentees during the last year was upwards of £83,000, and after the commencement of the payment of £100 at the expiration of the seventh year, the amount levied on inventors will not be less than £100,000 per annum, a sum which as levied on inventors and inventions, may reasonably be expected to be expended on objects in which inventors have some interest.

In reference to this branch of the subject the following questions would appear to arise for consideration:—

1. Should the present scale of payment be maintained or reduced, so as to leave no great surplus beyond what may be necessary for the official expenses?
2. If the present scale be maintained, how should the surplus be appropriated?

It appears that the second payment of £50 before the end of the third year is not made in respect of more than about one-fourth of the whole number of patents issued, that payment being made on about 500 out of 2,000 patents, so that 1,500 are permitted to lapse, the cost of which in money to the patentees cannot be taken at less than £75,000, in addition to the expenditure of time and labour on the respective inventions. Can anything be done to diminish this loss, beyond affording every facility for access to information as to what has been done before, and the improved education of the people?

In addition to these considerations and suggestions in connection with the new system as recently established, and which are of the fiscal character referred to by your Vice-President, there are some other questions deeply affecting the interests of inventors and the advancement of practical science, which it would not be proper to close this report without adverting to.

The Patent Law Reform of 1852 was never regarded as a final measure. It was but a first instalment, obtained under great difficulty; it only laid the foundation of the superstructure yet to be raised. The following important questions of—1. Improved protection to the property so created; 2. The amendment of existing patents and specifications, so as to save what is really new and useful, according to the amendment of the Patent Law, as effected by Lord Brougham in 1835; 3. The confirmation of an invention re-invented and introduced into successful use according to the principle of the confirmation of rights effected by the same noble lord; 4. The extension of the term of patents which have not yielded adequate remuneration to the inventor; 5. Reward to a meritorious inventor, who, from causes wholly beyond his control, has been a great loser by, or derived no benefit from, a meritorious invention, from which the public have derived great benefit; 6. A system of compulsory licenses under existing patents; are questions all of which were omitted advisedly by the promoters of the recent measure, their attention being directed mainly to the destruction of the existing, and the establishment of a new system of creating property in inventions.

These, with other amendments and matters of minor importance, which the experience of six years of the working of the new system have disclosed, will involve further legislation, and the consolidation and repeal of no less than 16 statutes or parts of statutes, an object of great importance to every inventor.

Your committee now remit this subject to the consideration of the meeting of the British Association, deriving confidence from the belief that the times are not unfavourable for further action, and that the town and neighbourhood in which the Association is now assembled may appropriately claim to take a prominent part in the consummation of those reforms which have occupied the attention of so many meetings of the British Association.

Leeds, Sept. 22, 1858.

On the Annual Yield of Nitrogen per Acre in Different Crops.

The following is an abstract of a paper read before Section B., by J. B. Lawes, F.R.S., F.C.S., and J. H. Gilbert, Ph.D., F.C.S.:—

In a paper given last year at the Dublin Meeting, on the question of the Assimilation of Free Nitrogen by Plants, and some allied points, the authors had stated, in general terms, that the amount of nitrogen yielded per acre per annum in different crops—even when unmanured—was considerably beyond that annually coming down, in the forms of ammonia and nitric acid, in the yet measured and analysed aqueous deposits from the atmosphere. The investigations then referred to were still in progress, and a desirable introduction to the record of the results would obviously be to illustrate, by reference to direct experiment, that which had been before only assumed, regarding the yield of nitrogen in our different crops. To this end had been determined the annual produce of nitrogen per acre, in the case of various crops, which were respectively grown for many years consecutively on the same land, namely, wheat, 14 years, barley, 6 years, meadow hay, 3 years, clover, 3 years out of 4, beans 11 years, and turnips 8 years. In the majority of the instances referred to, the yield of nitrogen had been estimated, both for the crop grown without manure of any kind, and for that with purely mineral manure—that is, excluding any artificial supply of nitrogen. It was the object of the present communication to give a summary view of some of the facts thus brought to light.

Beans and clover were shown to yield several times as much nitrogen per acre as wheat or barley. Yet the growth of the leguminous crops, carrying off so much nitrogen as they did, was still one of the best preparations for the growth of wheat; whilst fallow (an important effect of which was the accumulation within the soil of the available nitrogen of two years into one) and adding nitrogenous manures, had each much the same effect in increasing the produce of the cereal crops.

Other experimental results were adduced, which illustrated the fact that 4 years of wheat alternated with fallow had given as much nitrogen in the 8 years as 8 crops of wheat grown consecutively. Again, 4 crops of wheat, grown in alternation with beans, had given nearly the same amount of nitrogen per acre as the 4 crops grown in alternation with fallow, consequently, also, much about the same as the 8 crops of wheat grown consecutively. In the case of the alternation with beans, therefore, the whole of the nitrogen obtained in the beans themselves was over and above that which was obtained during the same series of years in wheat alone, whether it was grown consecutively or in alternation with fallow.

Interesting questions arose, therefore, as to the varying sources or powers of accumulation of nitrogen in the case of crops so characteristically differing from one another as those above referred to.

It had been found that the leguminous crops, which yielded in their produce such a comparatively large amount of nitrogen over a given area of land, were not specially benefited by the direct application of the more purely nitrogenous manures. The cereal crops, on the other hand, whose acreage yield of nitrogen under equal circumstances was comparatively so small, were very much increased by the use of direct nitrogenous manures. But it was found that, over a series of years, only about four-tenths of the nitrogen annually supplied in manure for wheat or barley (in the form of ammonia-salts or nitrates), were recovered in the immediate increase of crop. Was any considerable proportion of the unrecovered amount drained away and lost? Was the supplied nitrogenous compound transformed in the soil, and nitrogen in some form evaporated? Did a portion remain in some fixed and unavailable state of combination in the soil? Was ammonia or free nitrogen given off during the growth of the plant? Or, how far was there an unfavourable distribution and state of combination within the soil of the nitrogenous matters applied directly for the cereal crops—those, such as the leguminous crops, which assimilated so much more, gathering with greater facility, and from a different area of soil, and leaving a sufficient available nitrogenous residue within the range of collection of a succeeding cereal crop? These questions, among others which their solution more or less involved, required further elucidation before some of the most prominent of agricultural facts could be satisfactorily explained.

Comparing the amount of nitrogen yielded in the different crops when grown without nitrogenous manure, as above referred to, with the amount falling in the measured aqueous deposits, as ammonia and nitric acid, it appeared, taking the average results of the analysis of three years' rain, that all the crops yielded considerably more, and some very much more, than so came down to the soil. The same was the case when several of the crops had been grown in an ordinary rotation with one another, but without manure, through two or three successive courses. Was this observed excess in the yield over the yet measured sources at all materially due merely to exhaustion of previously accumulated nitrogenous compound within the soil? Was it probably attributable chiefly to the absorption of ammonia or nitric acid from the air by the plant itself or by the soil? Was there any notable formation of ammonia or nitric acid from the free nitrogen of the atmosphere? Or did plants generally, or some in particular, assimilate this free nitrogen?

As already intimated, some of the points which had been alluded to were, at the present time, under investigation, the authors having in this the able assistance of Dr. Pugh. Others, it might be hoped, would receive elucidation in the course of time. There of course still remained the wider questions of the original source, and of the distribution and circulation of combined nitrogen in the soil, in animal and vegetable life on the earth's surface, and in the atmosphere above it?

PATENT MUSEUM, SOUTH KENSINGTON.

The following is the number of visitors for the week ending 16th October, 1858:—Morning, 695; Evening, 759. Total, 1,454. Total number of visitors to the Patent Museum and Library since the period of free daily admission,—31,814.

Colonial Correspondence.

LABOUR IN THE WEST INDIES.

Sir.—That *vexata quæstio*, labour in our West India colonies, appears to be still as far from a satisfactory settlement as when, twenty years ago, it began to stir up the angry feelings of the growers of sugar and the manufacturers of rum. To the abolition of slavery and the adoption of free trade, the depressed condition of those colonies has been ascribed. Those events, when they first occurred, did, no doubt, occasion a violent shock to them. The annihilation of slavery and protection did unquestionably, for a time, exercise upon them a precipitating influence. But the effect may be compared to one of their own hurricanes. Houses are blown down, trees are prostrated, roads are torn up, and the roaring tide, lashed into fury by the wind, marches like a conqueror over the land, laying waste " trim gardens," and sweeping away temples, and obelisks, fountains, and grottoes; but when the gale subsides, the heavens are serene and bright, and the air, cleared of noxious vapours and the floating seeds of disease, is sweet and fresh; the wild rabbit again peeps from her hole, the birds venture from their leafy hiding-places, and again sing their matin songs and chant their vesper lays, and all nature, awakened as it were from a disturbed dream, is placid and at rest. Such was the convulsion produced at first by emancipation and free trade. The effects were natural, and to be expected. The colonies were struck to the earth; but, like Antæus, they ought to have arisen with renewed strength. If they did not do so it was their own fault. Protection has gone, but with it has gone an abnormal condition of trade, in which the prices of commodities were regulated by restrictive laws, instead of being governed by the natural rise and fall of the markets. Slavery has gone, but with it have gone much cruelty, much depravity, and a system of labour in which the only tie between the master and his servant was the chain, the only incentive to work was the cat. But instead of protection, we have trade freed from restraints, and, like an infant Hercules liberated from ligatures and bandages, beginning to exhibit its extraordinary powers. In place of slavery we have free labour;—the work of willing hands and cheerful hearts, instead of the constrained toil of reluctant limbs and broken spirits.

As early as the year 1514, the repugnance of slavery to natural rights, was acknowledged and pronounced by no less a person than Henry VIII. That monarch emancipated two of his slaves with their families, and the deed of manumission commences as follows:—

" God at first created all men equally free by nature, but many have been reduced to slavery by the laws of men. We believe it, therefore, to be a pious act, and meritorious in the sight of God, to set certain of our slaves at liberty from their bondage, &c."

It is not easy to account for such language, coming from a man who has been justly described as—

" The monster king of all that age,
Fierce in his lust, but fiercer in his rage.'

The words "natural rights" sound ridiculous when proceeding from the mouth of the ruthless tyrant who slaughtered Surrey, murdered Moore, and divorced himself *à vinculo* from his wives by a *bill* sharp and sudden, and much more effective than the parliamentary one which has recently come into operation for dissolving the marriage tie.

That free labour was much better than slave labour, that it was more economical and more productive, that it was more satisfactory in every sense, both to the master and to the servant, was discovered in the 14th century. Henry says: "Various causes contributed to the decline of villenage in England. The proprietors of land by degrees discovered that slaves, who laboured not for themselves, but for their masters, were often indolent or refractory, and that they got their work performed better, and even at less expense, by hired servants."

What was true in the fourteenth century is true in the nineteenth. What was true in England is true in Jamaica, in the United States, and in Cuba. But, in the two latter countries, they cannot or will not perceive it. Nay, even in our own colonies, there are many who look back to the days of slavery with regret—as the Israelites in the desert lamented the time when they were in the land of Egypt, when they sat by the flesh-pots, and when they did eat bread to the full, as they languished in the arid and pathless wild, for the savoury messes and the barley-wine on which they feasted in the days of their bondage. Many there are who look enviously at Cuba, and wish that they also could have slaves to cultivate their sugar plantations and their coffee mountains. Many there are who, if they dared, would call loudly for a return to the vicious system of "involuntary servitude." Of course all would repel with indignation such a horrid imputation. Nevertheless, there are individuals who indulge in such an iniquitous wish, but it is concealed in the darkest recesses of their hearts—in some mental "chamber of horrors," the contents of which will never be known to the world, unless during a fit of drunkenness or insanity the owner should involuntarily leave the door open—as Falkland locked up the bloody dagger, the evidence of his guilt, in his impenetrable iron chest. It is fortunate that in their case there is no prying Caleb Williams, to drag to light the "shape unholy." Although it is quite impossible to sympathise with those who indulge in such wicked longings, so far as those longings are concerned, it is also, at the same time, impossible to deny that they have abundant cause for discontent. When they see the verdant slopes and rich valleys of Cuba, covered with the bright green blade of the sugar-cane, or the beautiful white blossom of the coffee-tree; when they see the lofty Moro castle, and the battery of La Punta, which protect the capacious harbour of Havana, crowded with stately vessels from all parts of the world—from Glasgow, Liverpool, and London, from New York, Boston, and New Orleans, from St. Petersburgh, Havre, and Hamburgh; when they see the streets of that opulent and magnificent city thronged with busy and anxious passengers, hastening to keep appointments for the sale or purchase of valuable cargoes of sugar, coffee, or tobacco; when they see the long *passeos*, with their palaces, statues, and hedges of rose-trees, crowded with volantes mounted with solid silver, and drawn by large black Spanish mules, decorated with the most costly trappings, rolling rapidly along; when they see the Plaza de Armas brilliantly lighted with gas, where a large assemblage of richly-attired and beautiful ladies, wearing a light gauze mantilla, which is thrown over their dark glossy hair, and which floats behind them like a thin silvery cloud, promenade with their husbands, brothers, and caballeros, and listen to the splendid military band which is playing the newest polkas and waltzes before the Captain-General's palace, a large Italian structure, adorned with pilasters having Corinthian capitals, the open windows of which exhibit a scene within gorgeous with wax-lights, gold and silver plate, silks, and jewels; when they observe all these indications of wealth and prosperity, and they turn to to their own melancholy island, and behold brown, parched plains, or tangled wildernesses of bush and briar, the abodes of the agouta and the lizard, where, instead of the lowing of oxen, the creaking of wheels, and the whetting of scythes, they hear the chirp of the squirrel and the coo of the wood-pigeon; when they see a town, once rich and flourishing, now looking like a city which has been beleaguered, sacked, and pillaged; instead of noble Grecian structures, having porticoes of Doric or Ionic columns, with lions beautifully executed in the whitest marble frowning at the entrance, they see rotten wooden buildings, leaning on one side like the tower at Pisa, with every gust of wind a shingle flying from the roof, with every shower of rain a torrent rushing through the doors; instead of the gay volantes lustrous with burnished silver, and paint, and varnish, and driven by a smart servant, having on a red or blue jacket covered with gold lace, and polished jack-boots rivalling his skin in brilliancy and blackness, they see a wretched vehicle, which looks like the skeleton of a young omnibus—like a starved stage-coach not arrived at its majority, the lining greasy, torn, and moth-eaten, the paint almost entirely scrubbed off, broken springs mended with old rope, and pulled through the sand fetlock deep, sometimes by two horses, which appear to have been the subjects of the experimental philosopher, and to have arrived at an oat a-day, flavoured perhaps with a single blade of grass, sometimes by a tall horse and little pony, and sometimes by a mule and a donkey, and urged on by every persuasion of voice and whip which the black, grinning, shoeless, hatless, coatless, saucy driver can have recourse to; instead of the granite paved streets and macadamised *passeos*, abominable ways in which there is every kind of nuisance and dangerous obstruction, here a heap of old bricks, and tiles, and broken bottles, there a dunghill, here a huge fissure, and there a deep pit attempted to be filled up with straw and manure, abounding with dangers as great as the Maelstrom, Scylla and Charybdis, and those dreaded rocks of Epirus, called by Horace—

> "Infames scopulos Acroceraunia;"

when the colonists behold this contrast, they may be excused for complaining, and although their complaints are not always just and reasonable, still they may be pardoned.

The question however, is, what is to be done? It cannot be supposed that the British Government or the British people are indifferent to their distress, although they may not think, that for the purpose of relieving them, a decree should go out that all the world should be taxed. It seems that "labour" is the cry. Give us, say they, an unrestricted permission to engage free negroes on the coast of Africa, until we shall be able to compete with the slave-cultivated colonies. But permission to hire free negroes on the coast of Africa never will be accorded them; it is useless therefore to go on crying for what they cannot have, like little Pickle in the "Spoiled Child," who howled because he was not permitted to sit a-stride of the roasted saddle of mutton; or like the dear, sweet child, who set up his shrill pipes and deafened the whole neighbourhood, because he could'nt have the moon to play with—little innocent!

In my opinion, the danger of all unlimited engagement of free negro labour in Africa, has been greatly exaggerated by the fears of those philanthropic men by whose noble efforts the "damned spot" of slavery was obliterated throughout the whole length and breadth of the British Empire. A license to engage free negroes for our colonies, would, no doubt, be liable to be abused, but securities might be devised which would have the effect of preventing any illicit traffic from being carried on. A license, subject to certain restrictions, to hire African labourers, would, I conceive, be more likely to check the slave trade, and ultimately to extinguish that abominable traffic altogether, than the means which are at present adopted. To suppose that we can prevent slaves from being landed in Cuba by sending our ships of war to cruise along the coast of that island, is simply absurd. A "cruiser's digest" would show how fruitless has been the scheme. Cuba has at least 2,000 miles of coast, and the combined fleets of England and France would not be able effectually to blockade it. A thousand "Leviathans" could not do it. General Cass, in a letter to Lord Napier, says, "the joint blockade of the coast of Africa has been pursued some years, and the benefit it has produced bears no reasonable proportion, he regrets to observe, to the expenditure of life and treasure it has cost." This is no doubt quite true, but the writer adds, "but there is another way, without the danger and difficulties and inefficiency, and that is to shut the ports of Cuba. But supposing we could be justified in having recourse to such a proceeding (amounting in fact to a declaration of war) towards a nation with which we are at peace, how would it prevent the landing of slaves? Does the captain of a smuggler ever attempt to come into a port until he has discharged his cargo? Would our friend Nanty Ewart of the "Jumping Jenny" have done such a thing? No; he would not have been guilty of such an act of stupidity; he knew his business too well. A smuggler who knows his trade, and who is cool and cautious, and not like that pig-headed ruffian Dirk Hatteraick, will stand off and on until he has the signal which informs him that "All's right," when he will run his craft into a snug, secluded little bay, and, at the dead of night, when all is prepared—when the light covered carts, with wheels wrapped round with straw and other ingenious contrivances, are in readiness—will land his cargo in safety. Robin Hood's Bay, near Scarborough, and Skinnengrave, a small village on the sea coast, near Skelton Castle, once the seat of the De Bruses, were, 30 years ago, the scenes of many a romantic smuggling adventure.

Mr. Cass seems to think that a slaver goes boldly into the harbour of Havana, in St. Iago de Cuba. No such thing. She dodges about during the day, and steals quietly under the cloud of night into one of those numerous bights which abound on the coast of Cuba, where there is not a single human habitation, and where the slaves may be landed without the slighest chance of detection. The instant the poor creatures have placed their feet upon the shore, they are whisked away in every direction, with as much celerity as the dishes which were swept from the longing eyes of the hungry Sancho, when that practical philosopher was giving proof that a man may make a good governor without having been brought up to the craft, and that no special qualifications, beyond sound common sense and shrewd mother wit, were requisite for the office. Some years ago, whilst sailing into the Havana, the pilot drew our attention to a small, black, wicked-looking schooner, clipper-built, and having her masts well raked, which was lying at anchor about fifty yards from the Moro Castle. He informed us that she had landed 500 slaves at a little bight about ten miles off, and early that morning she had come into the harbour with all the appearance of an honest mercantile vessel, having all the necessary papers strictly correct. I do not recollect under what flag she sailed. An English and an American war-steamer had been cruising about at the time, and these vessels were now lying close together, appearing to be on the most amicable terms.

Mr. Mason, the American Minister to France, in a letter to the President, says, "he feels confident that in future the denunciation of American slavery will be greatly moderated, if not silenced in France, perhaps in England." He adds, "that it is quite evident that the conviction is gaining strength, both in England and France, that the compulsory emancipation of the slaves in their tropical colonies, by authority of their governments, was a grave political error."

In England, those who are able to think calmly, dispassionately, and rationally upon the subject of American slavery, are of opinion that it ought to be abolished as soon as possible, but that to give so great a number of slaves as exist in the Southern States of the Union, the greater portion of whom are without any mental culture, immediate emancipation, would be a dangerous experiment. But there is not in England a single individual deserving of respect, who regrets in the slightest degree the sudden and complete emancipation of the slaves in our own colonies. The people of England—who, with all their faults, and they have many, have a strong natural hatred of oppression in every form—do not think that it was a grave political error. They rejoice that it was done, although it was an expensive operation; although great violence was done to that vestiary department which an Englishman guards as vigilantly as did the dragons the golden apples of the Hesperides—*videlicet,* his breeches pocket. They do not grudge one farthing of the money which accomplished so glorious an object. Nay, it is my firm belief, that, careful, cautious, and unenthusiastic as they are, and, in some cases, frugal to a fault, they would, in the interests of humanity, gladly pay the same amount again to put an end to slavery in every part of the world. The very name of slavery is odious to every Englishman. It grates upon his ear. If it were in his power he would annihilate the thing, and abolish the word. Not a dictionary should contain it, and it should be an offence punishable by fine and imprisonment to utter it. But the slaveholders of the States will say to him, "Why do you kick up such a shindy about our niggers, when you have no end of slaves in your own country? Look at that little factory boy with his precocious pensiveness and his premature sadness. He is scarcely 10 years old, and yet he has the thoughtful expression of a man of 30, and already—like Peter Bell—his 'forehead wrinkled is, and furred by thinking of his *whens* and *hows*.' Look at the father of that poor child of want and misery. He is 35 years of age; but, judging from his appearance, you would say that he was 60. His hair is white, his countenance cadaverous, his shoulders round, his back bent, and his legs crooked. Look at that young girl, with her delicately chiselled features, her large expressive blue eyes, and her faultless form. If her parents had been wealthy, if they had been amongst the aristocracy of the land, hundreds would have knelt at her feet, and done fealty to her charms. But they belong not to that caste, and she is only a poor seamstress, with a widowed, bedridden mother and two young sisters to support. Alas! they will not have her support long, for her cheek is pale and thin, and hollow; her eye has an unnatural burning lustre, and ever and anon she coughs a short dry cough, and as she does so, she puts her long transparent hand upon her side. Why does she do so? Ah! postpone your inquiry for three months, then make it, and read the answer engraved upon a small piece of freestone standing in the ground amongst a number of little grassy hillocks—the unpretending tumuli of the poor. Well, are not these, and hundreds more whom I could mention, slaves—aye, as much slaves as our negroes. The only difference is, *our* slaves have comfortable homes and plenty to eat and drink, *your* slaves die of hunger, cold, and wretchedness."

Americans may talk, and have talked in this strain. But the cases are not parallel. It is true that we have much, too much, wretchedness and want,—it is true that there are heartless masters and mistresses who grind those whom they employ down to the earth. But the poor creatures who are thus treated still are FREE. They may leave their task-masters and task-mistresses whenever they like, and they are paid for their labour, although that pay is sometimes, indeed, very, very small. Though born to an unhappy lot, they are *not* slaves. They cannot be bought and sold; they cannot be made the victims of an employer's brutal passions; they cannot have the brands of ownership burnt into their flesh; they cannot have their ears cut off or their eyes gouged; they cannot be separated from their offspring; the greatest and wealthiest in the land cannot wrong them with impunity. Above all, they cannot be prevented from reading their Bible, that well-spring of hope, that everlasting fountain of comfort and consolation.

To return to African free labour. I have said that the danger of permitting free negroes to be engaged on the coast of Africa has been greatly magnified. But the opinion and feeling of a large and respectable class are too strong against that permission. We may take it, then, as a thing settled and decided, that the British Government never will, at least not for many years, give their sanction to it. But let us seriously inquire what we lose by the prohibition. We must have labour for our colonies; that is granted. But does it follow that that labour must be African labour? The colonists have been so long accustomed to negro labour, that they think sugar would not be sweet, nor rum well flavoured, without it. When the representatives of all the trades met in solemn conclave to consider what were the best materials with which to fortify their town, which was threatened with a siege, the tanner exclaimed, with honest enthusiasm, and a confiding faith in hides,—"There's nothing like leather." So the West India planter, when you talk to him about labour, ejaculates, with equal fervour, "There's nothing like niggers." The owner of a West India sugar estate, who was a great lover of cheroots and "old Jamaica," and to whom his agent used annually to send a puncheon of the spirit of cane (no pun intended), observed that the rum of a particular year was far superior to that of former or subsequent years, and he wrote to his attorney, "Pray tell me the reason why." The reply was, "You can't reasonably expect to have a nigger drowned in *every* puncheon." But it may be doubted whether the dead body of a negro would impart so delicious a flavour to the rum, except to a vitiated palate, (as George I. is said to have delighted in the oysters which he ate in Hanover, which stank, and to have regarded the fresh oysters which he got in England as insipid,) seeing that when alive it is by no means as fragrant as the rose; and it may be equally doubted whether the labour of the negro is preferable to that of others. Negro labour was first introduced into the New World in the reign of the Emperor Charles V., on the suggestion of Barthelemi de las Casas, Bishop of Chiapa. This was done from feelings of humanity—not to the negro certainly, for he was scarcely considered to belong to the family of man—but to the aboriginal Indians, who were most cruelly treated by the Spaniards. Since that time Africa has been the grand nursery for slaves, the great fountain of labour. It is much to be lamented that the discoverers and conquerors of the New World belonged to a race and a profession to whom the labour of the spade and the hoe was a degradation. Reared in the camp during the fierce conflicts which were constantly occurring between Arragon and Castile, and between those kingdoms and the Moors,—trained to arms, and habituated to plunder and all the excesses which the tented field in those days fostered and encouraged, they were daring and profligate, hardy and licentious. To them, as to ancient Pistol, "the world was their oyster, which they with sword did open." When the New World spread out its riches before them —like Pomona pouring from her lap the fruits of the earth—they buckled on their armour of proof, girded on their good swords, grasped their trembling lances, and crossed the seas in the frailest of barks, to conquer and to gather them. The idea of labour never entered into their thoughts. Had it been differently ordered—had those regions fallen into the possession of a peaceful and industrious people—a black skin would never have been seen in the colonies, slavery would never have been established, and European labourers would have turned into a garden that which is now a desert.

The colonists, then, have become habituated to the labour of Africans, and they think that it is impossible to do without it. I believe that they are very greatly in error. It has been the fashion to represent the negro as a suffering, patient, docile, simple, faithful creature. People are apt to imagine that every negro slave is an Uncle Tom, and that every owner of such slave is a Legree. But Uncle Toms are very scarce, and Legrees, unfortunately, are too plentiful in every rank and department of life. We find them amongst the nobility, amongst generals, amongst governors of colonies, amongst Judges. The noble lord who shot his gamekeeper, and was hanged for it, was a Legree. The gallant General who ordered women to be flogged was a Legree. Mrs. Brownrigg was a Legree. The Judge who condemned the Lady Lisle to be burnt was a Legree. Almost every human being has, I am afraid, got something Legreeish lurking somewhere about him. But Uncle Tom is a rare bird—he is a *niger cygnus*—he is a black cloud with a silver lining,—he is a kind of allegorical personage, representing negro virtue in the abstract, as Minerva represented wisdom, Mars war, and Venus beauty. Uncle Tom is an idea, grand, majestic, imposing. He is like the visionary republic of Plato, the new Atlantis of Bacon, the Utopia of Moore, or the Laputa of Swift. All praise to Mrs. Beecher Stowe for her philanthropic efforts. May she live a thousand years, and, as the Persians say, may her shadow never be less. But I don't agree with her. I have not an excellent opinion of the African. The good qualities which have been attributed to him—simplicity, endurance, patience, fidelity, honesty —are mythical. The negro is unimprovable. What he was a thousand years ago he is now, and what he is now he will be a thousand years hence, if the world should last so long. Send missionaries to him—teach him to read, teach him to pray. Show him the way of salvation, and place him in the right path to everlasting life. But don't bring him from his own country; leave him with his palmettoes, his calabashes, and his mangroves, his panthers, his baboons, and his lions, his flamingoes, and parroquets, his gold dust and his ivory. Where, then, are the West Indian colonists to obtain labour, if not from Africa? From India. That country is the great and true source of labour. The experiment was tried to a limited extent, and it was eminently successful. "What! employ Indians," says a choleric old gentleman, with a florid complexion, "why they'll cut all our noses off, sir!" "What! employ those horrid Indians!" exclaims a fair vestal of threescore, "Why, Lord have mercy upon us, we shall all be ravished." Now, unquestionably, whatever any eccentric gentleman may say to the contrary, the most frightful outrages were committed by the Sepoys during the late mutiny in India. But to argue from those atrocities, that the disposition of the Hindoo is by nature cruel and sanguinary, would be to commit a grievous error. During periods of extraordinary excitement, men are guilty of excesses which cannot justly be said to be the results of their natural character. During the revolution in France, when men drank of the cup of liberty for the first time, and quaffed the bowl to the very dregs, the intoxicating draught had the same effect upon them as the maddening firewater had upon the American Indian, and they perpetrated deeds at which humanity shuddered. But it would be very unfair to infer from the crimes which were then committed, that the French people are naturally a cruel race. Had there been no revolution, Robespierre, Marat, Danton, might have lived and died with the character of human and virtuous men, and, in their course through life, might have left behind them a trail of light, instead of a wake red with blood. But the revolution awakened the evil passions of their nature, and they became murderers and cut-throats. "Is thy servant a dog, to do these things," said Hazael, yet he did them. No! The Hindoo is not, as human nature goes, a bad man. He is not more sanguinary than the rest of his sanguinary species. He is also improvable. He possesses the Asiatic intellect—that intellect which founded the most powerful monarchies, erected the most stupendous structures, achieved the most wonderful conquests of the physical obstacles of nature, and has left remains containing a hidden and mysterious meaning, which will for ever elude the grasp of modern science. We cannot do better than import from our vast Indian empire Hindoos to cultivate and people our West Indian colonies. We have the testimony of Lord Harris and Sir Henry Barkly, to prove that the Indian coolies, in Trinidad and British Guiana, made admirable labourers, and that they were extremely quiet and well-conducted. In Jamaica, it is true, the experiment was not successful. But, somehow or other, nothing does succeed there. There were, however, particular causes in that island which were adverse to the experiment. The law regulating the importation of coolies was bad; the treatment of them by many of the planters was bad; and the coolies themselves, not being from the rural districts, but being lazy, loitering vagabonds from the towns—something like the lazzaroni of Naples—were bad.

But the system on which all the coolies were engaged was vicious. The practice of procuring labour, as it were, from hand to mouth, is most objectionable. When that is pursued, the labourers, as soon as they have earned a little money, will leave the colony, and return to their own country to spend it. That was the case with the better class of coolie labourers in British Guiana and Trinidad. They hoarded their wages, and when they had accumulated a pretty good sum, they returned with it to India. But no colony can be permanently populous which depends upon such precarious supplies of labour. It may flourish by fits and starts, but not steadily and continuously. It may be compared to a wild March day, on which amidst gusts and showers a ray of sickly sunshine is occasionally seen. The farmer would sow his wheat to little purpose, if he could not command labour when it was the time to reap it. The sugar grower pursues an uncertain calling, when, although this year his gains may be large, the next year may bring him a total loss. Every colony ought to have a settled labouring population within itself, and this can never be accomplished by the system which has been hitherto pursued. Men are brought from a great distance at considerable expense, professedly for a limited term, and at tempting wages, from their wives and children. They do not emigrate. They do not bring with them their Lares and Penates. Bramah, Vishnu, and Siva are left in their accustomed niches. Their wives are embraced, their children are kissed, and they set sail for the western El Dorado, promising to return as soon as possible with its treasures,—and they *do* return. Now, this system of supplying the colonies with labour, in my opinion, is faulty, and will never succeed. I will state my own plan. Let the country from which you obtain labourers be India. Avoid Africa. Avoid China. Do not engage a single labourer from the towns. Let all be brought from the rural districts, and let them consist only of those who have been accustomed to cultivate the soil. Let them be taken, in fact, from the Indian peasantry. Bring with them their wives and children, and for every two men let there be brought three women, in order to supply deficiencies occasioned by death. When you have got them into the colonies, allot to each labourer, for his occupation only whilst he continues a labourer, a small plot of ground, and let him have one day in the week to cultivate it. Do no violence to his religious prejudices. Let him perform his superstitious worship, and celebrate his Pagan rites as much as he will, so long as he is not guilty of immorality, indecency, and inhumanity. Let him be brought over to a purer faith by reason and conviction. Omit no proper opportunity of inculcating the doctrines of Christianity. Teach him to read and write, to reflect and reason. By adopting these means, you would very soon get a labouring population much more valuable than the slaves of Cuba, or of the United States. With such a population, there is no sugar-growing country in existence which could compete with our West India colonies in that article—and not only in that article, but in cotton, rice, and a great number of other products. You would have a permanent labouring population attached to the soil, which would rapidly increase, and from which would arise in time an intelligent and respectable class, qualified to discharge the duties of many municipal offices, which class would go on improving, until from it might be selected men eminently fitted for the highest appointments in the colonies.

The star, then, of colonial prosperity is in the east. It is from that quarter, and from that alone, that we may expect to obtain the means of awakening our West India colonists from their present cataleptic condition. With thousands and tens of thousands of free and voluntary immigrants—men, women, and children—from India, immigrants who come, not like locusts, to devour every green thing, and then wing back their flight; who come, not as the swallow comes, for a season, to revel in the summer sunshine, and skim along the surface of the calm, translucent lake—immigrants who bring out with them laziness, stupidity, brutality; but immigrants, active, industrious, intelligent, and possessing an intellect capable of the greatest possible cultivation. I say, with tens of thousands of such immigrants settling down in our West India colonies, making there their homes, establishing there their "pledges to fortune," erecting there their altars, and setting up there their household gods, what might we not expect? The Spaniards, like the old Romans, accomplished great works wherever they settled,—they built magnificent cities, they erected splendid cathedrals, they constructed impregnable castles. Mexico, Havana, and Lima are their handiwork. But were Jamaica, Trinidad, and British Guiana, peopled with Asiatics, cities would soon arise in the vast untenanted wilds of those colonies, equal to any which exist in Mexico or Peru. All architecture came from the East; from the East came the art of cultivation; thence also came the principles of commerce. Men personified these arts, they deified them, and they worshipped them under the allegorical appelations of Osiris, Mercury, and Apollo. Again let us turn our eyes to the East, for from that quarter alone help can come. I am, &c.,

R. TEMPLE.

Belize, British Honduras, September 17, 1858.

Home Correspondence.

EDUCATION BY MECHANICS' INSTITUTES.

Sir,—The importance of extending education amongst the working classes of this country by the agency of Mechanics' Institutes has not yet been sufficiently recognised, nor its means of usefulness applied with that regard to practical utility which can alone afford the hope of permanent success. It is a favourite theme at meetings on the subject of popular education, to lament that, notwithstanding the number of schools and teachers provided from various sources, there are so many who derive little or no advantage from them, owing, in some cases, to indifference, but in the majority of instances *to the many* means of employment at an early age. All this is too true, but many of the remedies proposed are impracticable, and, in the absence of any more attainable remedy, it would be well to direct more attention than has hitherto been done to the capabilities of Mechanics' Institutes to supply some part at least of the admitted defect.

It is not unusual at the festive gatherings of these Institutes, for public speakers to dilate on the importance of class instruction, but, although in the majority of instances such a mode of imparting information is put forward as a distinguishing feature, I believe it will be found that in very few is there that systematic management which is of the first consequence to ensure efficiency. Gentlemen are elected as members of the committee who have neither the qualifications nor even the intention to fulfil the duties which properly belong to the office. Their absence, even at periodical meetings, is more often the rule than the exception. They know very little of the condition or working of the Institute, except from the report presented at the annual meeting, and then, when they hear of a decrease in the number of members, and a balance due to the treasurer, they are surprised that the public feel so little interest in their ill-performed labours.

Much of this might be prevented if the Committee were chosen of men who were able and willing to perform the duties which they undertake, and would bear in mind that a secretary, however active and intelligent, is not a substitute for their neglect. Classes may be formed and teachers appointed, but with the best intentions they will become failures if they receive none of that regular supervision which is necessary for the efficient working of any system however ingeniously devised. Perhaps one of the first elements of success in class instruction is the punctual attendance of both teachers and pupils, and this should be, as far as possible, secured by the employment of paid teachers, with such gratuitous assistance as the Institute may be able to supply. But, whatever course be pursued in this respect, the irregularity of the teacher will soon produce similar conduct in the pupils, and the failure of the class will be inevitable.

An essential condition of class instruction is punctuality, and this should be insisted upon to as full an extent as is ordinarily pursued in good schools. Arrangements should then be made for a periodical visitation of the several classes, either by a sub-committee specially appointed, or by two or more members in rotation, as may be deemed most convenient. In elementary classes, the pupils should be examined at stated intervals, and their progress from one class to another be under the control of the committee, and not left, as is too often the case, to the caprice of the pupil. The teacher should also be enjoined to keep a register of the attendance at his class, and these reports should be regularly produced at every meeting of the committee.

It may be said that such a system would involve more trouble than many men would like to undertake, but no success in this world is achieved without trouble, and if men undertake an office involving duties they should perform them, or cease to complain because their neglect is followed by failure. Huddersfield is not a town of very large population, nor does it possess any peculiar advantages over very many other towns; yet its Mechanics' Institute has often been referred to as a model of success in class instruction, and it was chosen by the Society of Arts as the place for their first experiment of a Local Examination.

It has about eighteen classes meeting every evening, or nearly ninety in the week, with nearly a thousand pupils receiving instruction in various departments, and most of them engaged during the day-time in earning their means of subsistence. Such an educational establishment has not been raised to its present state of efficiency by drawing up rules and leaving them to be carried out or not as it may happen. It has not only an active and intelligent secretary, but an energetic committee, who pride themselves on the punctuality with which their duties are performed, and they are rewarded by the success which results from their labours.

From small beginnings it has risen, by continued exertions and systematic attention, to its present eminence, and the mode of management is well deserving the attention of those who are desirous of making Mechanics' Institutes really efficient for the purposes for which they are designed. In every town or village they may enjoy the advantages of punctuality, and much may be done by that regular supervision to which I have alluded, to render classes more successful than is usually the case. Each individual member of the committee should feel that he has undertaken a responsibility, and not the least important of his duties is to ascertain by actual inspection the regular attendance of both teachers and pupils in the classes. If this duty be performed, one feature of the Institute will prove satisfactory, and one step be gained towards the attainment of the object for which it was established. I am, &c.,

BARNETT BLAKE.

Leeds.

Proceedings of Institutions.

Crosby Hall Evening Classes, London.—The following letter has been addressed to the Editor of the *Journal*, by the Rev. Charles Mackenzie, Honorary Secretary to these Classes:—

"Crosby-hall, E.C., Oct. 16, 1858.

"Sir,—In your notice of our proceedings (which I am thankful to see in your *Journal* of yesterday) there is a misprint, which may lead to misconception, but which is not attributable to your printer. Our report in our 'Journal,' No. 15, Oct. 2, makes it appear that we had—

			Members.		£	s.	d.
In Michaelmas Term,	1857	...	672	paying	262	0	6
In Lent ,,	1858	...	70	,,	223	0	0
In Trinity ,,	,,	...	50	,,	180	13	6

"Whereas, the MS. stated more correctly:—

Michaelmas	...	672	...	£262	0	6
Lent	...	735	...	223	0	0
Trinity	...	506	...	180	13	6

"We endeavoured to correct this error of the press in No. 16 of our 'Journal,' published on the 9th inst., but it is no wonder that it escaped your notice.—I am, &c.,

"C. MACKENZIE, Hon. Sec."

Manchester Mechanics' Institute.—A meeting was held at this Institution on Monday evening last, the 18th inst., for the purpose of distributing the certificates awarded by the Council of the Society of Arts to students in the Manchester Mechanics' Institution. These honours were distributed by the Earl of Carlisle, K.G. Mr. Oliver Heywood, president of the Institution, occupied the chair; and there were present Mr. Mackie, the Mayor of Manchester; Mr. Harvey, Mayor of Salford; Sir G. Armitage, Sir J. Watts, Mr. Fairbairn, C.E., F.R.S.; Professor Greenwood, Principal of Owens College; Mr. L. Horner, the Rev. W. Gaskell, Mr. J. Heron, the Rev. Canon Richson, Mr. Bazley, and many of the members and friends of the Institution.—The Chairman said it was proper to enhance—if the presence of such an assemblage as this could enhance—the gratification and distinction of the victors in the recent competition for testimonials of proficiency. At the same time, those who had been unsuccessful were not to be overlooked. Many of them were men of considerable talent and ability; they were present as generous witnesses of their competitors' distinction, and they were also diligently preparing themselves for the renewed contest of next year. They needed not to be told that disappointment was the way through which most men had attained success. What would have been the position of this institution itself had its conductors been unmindful of that encouragement to perseverance? After referring to the merits of the educational experiments which are in process all over the country, the chairman said that the late examination, the third under the auspices of the Society of Arts, was the first in which members of this institution had competed. There were about 1,000 candidates, of whom this Institution sent 36. Of that number, eight failed to pass the preliminary examination, and ten of the remainder gained 19 certificates. The total number of papers sent in by the 28 was 47, many of the successful candidates having entered themselves for examination in several subjects. The simple and more useful subjects were not passed by for the higher branches of study; for the preliminary examinations were passed by the 28 with great credit. There might, however, have been some aiming too high, for while there was but one paper in chemistry, one in practical mechanics, and one in book-keeping, there were seven in geometry, and eight in algebra. It was reassuring, however, to perceive, on analysing the results, that those who competed in a plurality of subjects had been successful in a fair proportion.

Mr. R. Rumney, the chairman of the class committee, stated that the educational department of the institution consisted of three divisions. First were the female day classes, which were commenced many years ago, for the purpose of giving a sound practical education to the daughters of adult members of the artizan class. These classes had been eminently successful, and they now contained as many as could be accommodated. There were at present 260 girls and young women receiving daily instruction from thirteen teachers, ten of whom had received almost their entire education in the institution. The boy's department had only been established since the opening of the new building. A person who sent his sons to be taught at the Institution had declared that for a subscription of 17s. a quarter, including membership, they were receiving quite as good, if not better education, than they had got at a school for which he had paid £12 per annum. There were 200 boys in attendance, and their classes were conducted very efficiently. In the evening classes an alteration had been made. The plan of conducting them formerly was to teach the members individually. Now the collective system was adopted, and by a proper sub-division of the members of those classes, and a frequent use of the black-board, several advantages were gained. The directors had great faith in the use of the chalk and black board; they believed there could be no efficient teaching of large classes without the general use of them, and in their selection of teachers they had had special regard to ability in handling these two instruments effectively. In Mr. Angell, the principal of these classes, they had secured a gentleman who could use both chalk and black-board with remarkable results, and such as he (Mr. Rumney) had never witnessed before.

The Earl of Carlisle expressed how much pleasure he felt in having this opportunity of paying his respects and homage to old acquaintance. It was now—he feared it must be confessed—above a quarter of a century since he paid his last visit to the members of the Mechanics' Institute of Manchester. He was delighted to find how much more handsomely and commodiously the members were now accommodated, and he did not see why they should not all enter into an engagement with each other to meet again at the end of another quarter of a century. At the end of that time no doubt it would be impossible for any room to contain their greatly augmented numbers short of the great Free Trade Hall. He heard the most favourable reports of the progress of the institution and of the benefits it had been privileged to confer upon the important and populous district in the heart of which it was established. A most pleasing thing it certainly was to find that in a town like Manchester, the foremost town in all the world for mechanical invention and ingenuity—which invention and ingenuity could not be better represented than by the eminent gentleman near him, Mr. William Fairbairn—that in such a town, absorbed necessarily to a great extent in material pursuits, there was suitable provision made for the intellectual, the mental, and the higher qualities of our nature. Amongst the many institutions in the city having this elevating mission in view, there was every reason to believe that the Mechanics' Institute most creditably and laudably performed its part. He learnt that, besides the general arrangements of a mechanics' institute—its reading and news-room, and its library of books—they had female day classes, which, at the period of their last report, contained 219 pupils; besides which, there were persons giving their attention to special branches of instruction, such as music, dancing, drawing, modelling, French, and even millinery—no doubt an important pursuit in its way—a number of persons which, with the day classes, raised the whole number to 441; that the evening male classes were attended by no less than 833 students, and that there were classes for boys which comprehended 166 pupils. He believed these last classes had only been nine months in operation; they were now increasing, and with a longer period of time before them, they would show how well they could earn their honours. He found that there was attached to the institution a working man's college, which he trusted was destined to confer solid advantage upon the great working community of the town. He thought it important that the directors and members should study how to make their institution attractive and amusing—he almost shrunk from using that word—but he meant "cosy"—as well as dignified and instructive. If it was thus furnished with all the attractions which, consistently with its character and constitution, it was capable of, the directors would not then compel, but induce people to come to and maintain their connexion with it. This bore upon the question of the propriety and advantage of keeping up as much social intercourse as possible, and the friends and members of all such institutions would show great wisdom in promoting such a spirit of good fellowship, and in maintaining as much *esprit de corps* as possible. He rejoiced that the institution still continued to be managed by directors elected by the members from their own body, for that was the way, he was confident, of giving satisfaction and inspiring interest. They had been told that of the 28 candidates from the institution, at the recent examination of the Society of Arts, 10 succeeded and 18 failed. Though failure could never be looked upon as a pleasing subject for comment, he yet did not think it to be regretted that there should, particularly at the outset of such examinations, be a certain proportion of failures. They showed that the work was done in earnest—that there was no sham about it; in fact, the giving too large a number of prizes or certificates took away all the real value and honour of such distinctions. Those young persons—he supposed they were mostly so—upon whom were to be conferred honours that evening, he would cordially congratulate upon their success; and he would earnestly exhort them to pursue the honourable and laudable career upon which they seemed to have entered. He would impress upon all—both on those upon whom he was about to confer these well-earned marks of honour and distinction, and those who had laudably, although not in this instance successfully, engaged in the struggle—that wherever their after destinies might carry them, the work of education, properly so considered, did not terminate with the class room, or the professor's lecture, or the institute. Every succeeding day of their lives might add to their knowledge, and every passing moment of their time might promote their personal improvement. They should strive, by every means in their power, to attain to the highest degree of usefulness to the generation in which they lived. But at the same time, while they strained their utmost endeavours to attain the highest degree of usefulness, they should be content with any opportunity they had of being useful, even in the humblest way. The statues of Watt and Dalton adorned one of the noble spaces in that town; but it was not everyone that could hope to be a Watt or a Dalton, any more than it was given to any set of men to become Shakspeares or Miltons:—

> "For not to one in this benighted age,
> Is that diviner inspiration given,
> That glows in Milton's or in Shakspeare's page—
> The pomp and prodigality of Heaven."

But because they could not attain to the very brightest and most immortal chaplets of literature, that was no reason why the common, smooth, and current paths of literature and of knowledge should be neglected. The aristocracy of genius was indeed more limited than all the other aristocracies. But the aristocracy of virtue had this peculiarity in it, differing from all other aristocracies—that it might be co-extensive with all mankind; and it was their own fault if they did not each of them make one of that peerless aristocracy.—The noble earl then proceeded to distribute the certificates, and the meeting terminated with votes of thanks to the Earl of Carlisle and to the Chairman.

PATENT LAW AMENDMENT ACT.

APPLICATIONS FOR PATENTS AND PROTECTION ALLOWED.

[*From Gazette, Oct.* 15, 1858.]

Dated 6*th September*, 1858.

2014. J. Fielden, Woodshade, near Todmorden, Lancashire—An imp. or imps. in the construction or building of cops, whether of cotton, flax, silk wool, or other fibrous materials, and also for certain utensils thereunto conducing or belonging.

Dated 9*th September*, 1858.

2042. W. Taylor and P. A. Baugh, Nursling, Hampshire—An improved apparatus for propelling ships or other navigable vessels through water.

Dated 17*th September*, 1858.

2100. G. Prax, Paris—Imp. in apparatus for separating the liquid from the solid portions of fecal matters.

Dated 18*th September*, 1858.

2106. J. Luis, 1B, Welbeck-street, Cavendish-square—A new manner for applying centrifugal force in the manufacture of the fecula of potatoes, of starch, of yeast, of porcelain paste, of paper pulp, and ultramarine, and the apparatus for carrying out the same. (A com.)
2108. J. B. Beasley, Cashel, Ireland—Imp. in the construction of sporting and all other guns.
2110. H. W. Grylls, 47, Mark-lane—Imp. in apparatus employed in submerging or laying down electric telegraph cables.

Dated 20*th September*, 1858.

2114. H. Firmin, Wapping—A machine for cleansing chaff and other food for horses and cattle.

Dated 21*st September*, 1858.

2116. G. M. Levi, Maida-vale, Middlesex—Imp. in the manufacture of iron in the blast furnace. (A com.)
2118. G. Dowler, Birmingham, and T. T. Chellingworth, West Bromwich, Staffordshire—An adjustable torsion spring for doors or other purposes.
2120. J. C. E. Malvezin, Paris—Imp. in the manufacture of tubes, pipes, or mains, for conducting liquids or gas, or for other similar purposes.
2122. A. V. Newton, 66, Chancery-lane—An improved machine for sweeping carpets and floors. (A com.)
2124. A. M. Perkins, Francis-street, Gray's-inn-road—Imp. in surface condensers.

Dated 22*nd September*, 1858.

2126. T. B. Hubbell, Regent-street—An imp. in hooped petticoats. (A com.)
2130. R. A. Brooman, 166, Fleet-street—Imp. in apparatus for printing shawls and other articles. (A com.)
2134. J. Spence, Liverpool—Imp. in the manufacture of steel, and in the furnaces employed in such manufacture.

Dated 23*rd September*, 1858.

2136. Earl of Dundonald, 12, Queen's-gate, South Kensington—An improved machinery or apparatus for tilling and preparing land for cultivation.
2138. H. McGrady, 21, Bridge-street, Blackfriars—Imp. in the construction of flues, boiler and other furnaces, and in certain appliances thereto.
2140. D. Grant, Ludgate-hill—Imp. in colour-printing presses.

Dated 24*th September*, 1858.

2142. P. Pickering, Danzig, Prussia—An atmospheric engine.
2143. R. Ford and W. Ford, 4, Nelson-street, Perth, Scotland—Smoke consuming by means of a reciprocating or reversing fire.
2145. R. A. Brooman, 166, Fleet-street—Imp. in the manufacture of pile and cut pile fabrics, and in machinery employed therein. (A com.)
2146. H. H. Henson and W. F. Henson, 38, Parliament-street—Imp. in waterproofing leather woven fabrics, fibrous and other materials, and also for rendering them fire-proof, or partially fire-proof.
2147. R. Bodmer, 2, Thavies-inn, Holborn—An improved apparatus for preventing explosions in steam boilers. (A com.)
2148. C. F. Vasserot, 45, Essex-street, Strand—Imp. in the construction of spinning cards. (A com.)
2149. W. Richards, Birmingham—Imp. in fire-arms and cartridges.
2150. G. L. Fuller, Lombard-street—Imp. in steam engines.
2151. G. L. Turney, Aldermanbury—An improved mode of packing pins for sale.

Dated 25*th September*, 1858.

2153. R. Romaine, 12, Chapel-street, Bedford-row—Imp. in the construction of steam cultivators, and in the means for operating such and other locomotive steam engines.
2155. E. Farncomb, Lambeth—Imp. in lilliputian fire-arms.
2157. W. Clark, 53, Chancery-lane—Imp. in purifying natural phosphates of lime. (A com.)

Dated 27*th September*, 1858.

2159. S. H. Greaves, Radford-street Works, Sheffield—Imp. in the mode of manufacturing the blades of table and other knives.
2161. W. Lander, Bristol—Imp. in engraving and printing, for the purpose of ornamenting china and earthenware.
2163. W. E. Newton, 66, Chancery-lane—Imp. in cigar holders or mouth pieces for cigars, and in pipes for smoking tobacco. (A com.)

Dated 28*th September*, 1858.

2165. B. Jones, York—Imp. in press wheel rollers or clod crushers, which imps. are also applicable to rollers for crushing, bruising, and pulverizing roots and other substances.
2167. G. Mead, 7, Westside, Cambridge-road, Bethnal-green—Imp. in the construction of tobacco pipes.

Dated 29*th September*, 1858.

2169. J. Manning, Cambridge, and T. Paul, Houghton, Huntingdonshire—An improved stone staff to be used in dressing millstones.
2171. G. Old, Aston, near Birmingham, and T. Pendleton, Birmingham—Imp. in dress-fastenings, and in attaching dress-fastenings to articles of dress.

Dated 30*th September*, 1858.

2173. T. Britt, 9, St. Thomas-terrace, Church-street, Old Kent-road, Camberwell—An imp. in the propelling of steam-boats.
2175. J. Morrison, Birmingham—An imp. in, or addition to, sewing machines.
2177. L. Cecconi, 12, Great Newport-street—Imp. in the construction of cornets, trumpets, horns, and other wind instruments of a like nature.
2179. R. Levy, Manchester—Imp. in the manufacture of coats, ladies' riding habits, and other similar garments.
2181. A. Normand, Havre, France—Constructing ships and vessels propelled by screw or such like propellers.
2183. J. J. Russell, Wednesbury, Staffordshire—Imp. in furnaces for heating iron and steel, suitable for the manufacture of welded tubes and other articles.

INVENTIONS WITH COMPLETE SPECIFICATIONS FILED.

2249. C. E. Bull, Wells, Norfolk—An apparatus for containing and preserving articles of value from loss or damage in cases of shipwreck.—9th October, 1858.
2265. A. Von Schuttenbach, St. Petersburgh—Imp. in lamps.—11th October, 1858.
2277. M. Sautter, Paris, Boulevart Montmartre, 14—Imp. in air-engines.—12th October, 1858.

WEEKLY LIST OF PATENTS SEALED.

[*From Gazette, Oct.* 15, 1858.]

October 15*th.*

708. J. H. Johnson.
818. J. Meyers.
820. W. E. Newton.
848. J. G. Jennings.
881. W. H. Ridgway.
854. H. Edwards.
873. M. Ross.
942. M. A. F. Mennons.
944. E. Tomlinson.
961. J. Chadwick A. Elliott, and W. Robertson.
973. A. Smith.
1020. J. Castle.
1038. R. B. Goldsworthy.
1118. W. E. Newton.
1166. C. F. D. Monnin.
1202. M. A. F. Mennons.
1320. W. Davis.
1659. L. J. Marks.
1764. A. V. Newton.
1971. M. A. F. Mennons.

[*From Gazette, Oct.* 19, 1858.]

October 19*th.*

876. J. Horsey.
877. E. Green & E. Green, jun.
879. B. Parker.
880. W. Bishop.
883. J. Chatterton.
884. G. Gilmour.
887. P. Maugey.
890. P. E. Aimont.
892. J. B. Paddon.
894. T. Donkin.
897. C. Atkinson.
898. H. J. Sillem.
899. J. P. Pirsson.
903. C. Lungley.
904. A. S. Stocker.
908. F. Lillywhite & J. Wisden.
914. J. M. Fisher.
916. J. Westerby.
926. E. White.
946. W. Clark.
959. D. Auld.
969. W. Clark.
987. W. Clark.
1021. R. Openshaw.
1159. W. Harding.
1177. J. Luis.
1329. W. E. Newton.
1454. J. Morgan.
1603. T. Leigh.
1624. T. Greenwood, J. Batley, and J. Salt.
1724. H. Bessemer.
1769. J. J. Russell.
1810. H. Clayton.
1925. J. Biggs.
1977. J. H. Johnson.
1979. William Rose.

PATENTS ON WHICH THE STAMP DUTY OF £50 HAS BEEN PAID.

[*From Gazette, Oct.* 15, 1858.]

October 11*th.*

2296. G. T. Bousfield.
2298. G. T. Bousfield.
2337. Dr. Graham.

October 12*th*

2302. T. W. Dodds.

[*From Gazette, Oct.* 19, 1858.]

October 14*th.*

2311. E. Wilkinson.
2317. H. Bessemer.
2319. H. Bessemer.

October 15*th.*

2321. H. Bessemer.
2325. H. Bessemer.
2327. H. Bessemer.
2331. J. Adcock.
2359. A. Parkes.

October 16*th.*

2336. S. Statham.
2344. W. Smith.
2345. W. Basford.